

## Tuning of the Radium biodistribution by dietary supplements in a *CD1* mice model.

Although  $^{223}\text{RaCl}_2$  has been approved for the treatment of bone metastases originating from mCRPC (EMA, FDA and others), further data on  $^{223}\text{Ra}$  biodistribution and possible metabolism tuning are needed particularly after the discovery of increased risk of death and fractures due to the interactions of  $^{223}\text{Ra}$  with abiraterone, prednisone/prednisolone treatment.

Thus we report here the results of biodistribution study with  $^{223}\text{RaCl}_2$  applied intravenously to a healthy female *CD1* mice fed with various dietary supplements - vitamin D and  $\text{CaCl}_2$  or with co-treatment with zoledronic acid. *Ex vivo* biodistributions were determined in major organs in 24 and 96 h. p.i.

Our results indicate that the vitamin D and  $\text{CaCl}_2$  supplements and co-treatment with zoledronic acid have direct impact on Radium biodistribution and elimination kinetics.

We speculate that under optimized conditions the treatment of bone metastases may become more efficient and safer compared to application of  $^{223}\text{RaCl}_2$  only.

### Funding Agency

Technology Agency of the Czech Republic, grant No.: TA03010027.

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### Presentation Type

Contributed Oral

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**Track Classification:** Preclinical